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disposed for emitting laser light 11 being excitation light. The laser light 11 scans the sheet 4 in the horizontal scanning direction perpendicular to the paper surface. Above the position where the sheet 4 is scanned in the horizontal scanning direction with the laser light 11, a collective guide 14, for collecting the photostimulated luminescent light 13 emitted from the sheet 4 by the horizontal scanning of the laser light 11, is disposed in proximity to the conveying passage of the sheet 4. Near the collective guide 14, a collective mirror 7 is disposed for reflecting the photostimulated luminescent light 13, scattered and emitted from the storable fluorescent sheet 4, toward the collective mirror 7. The collective mirror 7 is supported by a mirror mount 6. The collective guide 14 is connected with a photomultiplier 15, which photoelectrically detects the photostimulated luminescent light 13. This photomultiplier 15 is connected to a logarithmic amplifier 16, which is in turn connected to an A/D converter 17. The A/D converter 17 is connected to storage means 18, which is in turn connected to image processing means 19.

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Here, stray light will be described in detail with reference to Figs. 3 and 4. Note that in Fig. 3, the laser light 11, reflected toward the sheet 4 by the cylindrical mirror 48, and the laser light 11 before reflection, are in the same plane for the purpose of explanation. As illustrated in Figs. 3 and 4, the laser light 11 is reflected toward the sheet 4 by the cylindrical mirror 48 and is projected at position P1 on the sheet 4. The laser light 11 projected at the position P1 is reflected at the surface of the sheet 4 toward the cylindrical mirror 48 and is further reflected at the cylindrical mirror 48 toward the cylindrical lens 50. Then, the laser light 11 reflected toward the cylindrical lens 50 is reflected as stray light 11' at the surface of the cylindrical lens 50 toward the sheet 4. Because the laser light 11 is incident on the sheet 4 at an angle to an optical axis X,

52 as illustrated in Fig. 3, the stray light 11' is projected at position P2 away from position P1.

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3 Now, a method of generating the storable fluorescent inspection sheet 21 will be described in detail with reference to Fig. 8. As illustrated in Fig. 8A, the region 21A of a storable fluorescent sheet 21' having stored and recorded no radiation image is shielded with a radiation shielding plate 71 (e.g., a lead plate of thickness 5 mm), and the unshielded region 21B of the sheet 21' is illuminated with radiation 72 with a dose of 50 mR, emitted from a radiation source 70. Then, as illustrated in Fig. 8B, the region 21B is shielded with the shielding plate 71, and the unshielded region 21A is illuminated with radiation 72 with a dose of 1 mR, emitted from the radiation source 70. In this manner, the storable fluorescent inspection sheet 21 having stored and recorded the radiation inspection image 20 can be obtained as illustrated in Fig. 6.

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a Fig. 16 illustrates how stray light is inspected by use of the storable fluorescent inspection sheet 21. Assume that in the radiation image reader 1, stray light develops at the position P7 shown in Fig. 16 during reading at the position P8. As illustrated in Fig. 16, a low-density region 29A and a high-density region 29B develop in an image 29, obtained by reading the storable fluorescent inspection sheet 21. In the case where the positions P7 and P8 on a certain horizontal scanning line are both in the high-density region 28B of the radiation inspection image 28, noise resulting from stray light is inconspicuous. However, in the case where the horizontal scanning line is moved by vertical scanning during reading of the storable fluorescent inspection sheet 21, and the position P8 is in the low-density region 28A and the position P7 in the high-density region 28B, noise 23 in the form of a line extending in the